

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court

Woodbridge, VA 22193

SUBJECT: Reissuance of VPDES Permit VA0089133

TO: Aldie WWTP Reissuance File

FROM: Alison Thompson

DATE: August 1, 2011

This memorandum gives pertinent information concerning the reissuance of the VPDES Permit listed above. This permit is being processed as a **Minor, Municipal** permit. The discharge results from the operation of a 0.015 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011), updating permit language as appropriate, and identifying applicable Total Maximum Daily Loads (TMDLs). The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

The following discussions are numbered as they appear in the 2006 Fact Sheet; the 2006 Fact Sheet and Attachments can be found in Attachment A. The information contained in this memorandum replaces or expands upon the information in the 2006 Fact Sheet.

4. Processing Information.

Application Complete Date: February 11, 2011

Permit Drafted By: Alison Thompson

Date Drafted: August 1, 2011

WPM Review By: Bryant Thomas

Date Reviewed: September 2, 2011

Public Comment Period : Start Date: 11/9/2011

End Date: 12/9/2011

10. Sludge Use and Disposal.

The facility pumps and hauls the sludge on an as needed basis and it is transported to the Septage Receiving Facility at the Broad Run WRF (VA0091383) for further treatment.

14. Site Inspection.

The site visit memorandum can be found as Attachment B of this memo.

15. Receiving Stream Water Quality and Water Quality Standards.

a) Ambient Water Quality Data

The following is a monitoring summary for the receiving stream, Little River. This monitoring summary is taken from the 2010 Integrated Assessment. Monitoring Station 1aLIV004.78 is located approximately 0.2 rivermiles upstream from the Outfall of VA0089133, and Station 1aLIV001.70 is located approximately 2.88 rivermiles downstream from the Outfall of VA0089133.

Biological monitoring finds benthic macroinvertebrate impairments, resulting in an impaired classification for the aquatic life use. A total of two biological monitoring events in 2008 resulted in a VSCI score which

indicates an impaired macroinvertebrate community. A benthic (sediment) TMDL for the Little River watershed was completed and approved in 2004. The recreation and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

There are two downstream impairments from this facility's outfall. The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month. The affected area includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to the Route 625 bridge, Difficult Run up to the Route 7 bridge, and Pimmit Run up to the Route 309 bridge. Additionally, there were exceedances of the water quality criterion based tissue screening value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in American eel (2004, 2004) and smallmouth bass (2004). This impairment is located approximately 11.24 rivermiles downstream from the Outfall for VA0089133. Sufficient excursions from the maximum *E. coli* bacteria criterion (6 of 41 samples - 14.6%) were recorded at DEQ's ambient water quality monitoring station (1aGOO011.23) at the Route 621 crossing to assess this stream segment as not supporting the recreation use goal for the 2010 water quality assessment. This impairment is located approximately 4.58 rivermiles downstream from the Outfall for VA0089133.

The full planning statement can be found in the reissuance file.

b) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Muddy Run is located within Section 4 of the Rappahannock River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment C details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has reviewed the effluent data for pH and temperature and finds no significant differences from the data used to establish ammonia criteria in the previous permit. Therefore, the previously established pH and temperature values will be carried forward as part of this reissuance process. The ammonia criteria can be found in Attachment C.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/l calcium carbonate). There is no hardness data for this facility. Staff guidance suggests using a default hardness value of 50 mg/L CaCO₃ for streams east of the Blue Ridge. The hardness-dependent metals criteria in Attachment C are based on this default value.

Bacteria Criteria:

The Virginia Water Quality Standards at 9VAC25-260-170 A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean ¹
Freshwater <i>E. coli</i> (N/100 ml)	126

¹For a minimum of four weekly samples [taken during any calendar month].

c) Receiving Stream Special Standards

No changes from the 2006 Fact Sheet.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on August 1, 2011, for records to determine if there are threatened or endangered species in the vicinity of the discharge. No threatened or endangered species were identified. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species which may be found near the discharge. The DGIF query has been placed in the reissuance file.

16. Effluent Screening, Wasteload Allocation, and Effluent Limit Development.

Effluent data obtained from the permit application and monthly DMRs has been reviewed and determined to be suitable for evaluation. Effluent data were reviewed, and there have been no exceedances of the established limitations. The Wasteload Allocations (WLAs), Antidegradation WLAs, and subsequent limits derived as part of the 2006 reissuance were compared with the WLAs derived utilizing the current Water Quality Criteria.

This facility has a WLA in the approved Bacteria TMDL for Goose Creek. The current permit has *E. coli* monitoring twice per month. The *E. coli* water quality standards require the geometric mean to be calculated using 4 samples per month; therefore, the monitoring for *E. coli* shall be increased to 1/week in the draft permit.

No changes are proposed to the BOD₅, TSS, pH, or Dissolved Oxygen limitations or frequency of analysis. The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD/CBOD and TSS (or 65% for equivalent to secondary). This permit requires influent BOD₅ and TSS monitoring on an annual basis to demonstrate 85% removal.

17. Antibacksliding.

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Changes to Permit from the Previously Issued Permit.

- 1) The *E. coli* frequency of analysis was changed from 2/M to 1/Week in accordance with current agency guidance.
- 2) A TMDL reopener was added to the permit.

20. Public Notice Information.

First Public Notice Date: 11/9/2011

Second Public Notice Date: 11/16/2011

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3834, Alison.Thompson@deq.virginia.gov. See Attachment D for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

22. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDL).

Goose Creek PCBs in Fish Tissue – This TMDL is due in 2018. The TMDL will not specifically include the receiving stream, however, all upstream point source dischargers will be considered in TMDL development. Although TMDL Guidance Memo No. 09-2001 recommends that minor municipal VPDES facilities collect 1 wet sample and 1 dry PCB sample during the permit cycle using EPA Method 1668B, the request for PCB monitoring may be waived if it can be reasonably assumed that the facility does not contribute PCBs (for example, if the facility was built after 1976, when PCB production was banned by the federal government in this year, or if the facility can certify that PCBs were never present on the site). The Assessment/Planning staff do not believe that this facility should be required to perform PCB monitoring due to the fact that it serves a small residential community with few possible sources that could contribute PCBs.

Goose Creek Benthic Impairment - A TMDL for the Goose Creek and Little River watersheds was approved by EPA in 2004. The TMDL identified sediment as the key stressor impacting the benthic community. The WLA for this facility is 0.69 tons/year of sediment (TSS).

Goose Creek Recreational Use Impairment – The Bacteria TMDL for the Goose Creek Watershed, which includes the receiving stream, Little River, was approved by EPA in 2003 and was modified in 2006. At the time of TMDL Development, Little River had a fecal coliform bacteria impairment. The recreational use has subsequently been delisted, however the downstream *E. coli* WLA established in the Goose Creek TMDL does still apply to this discharge. The WLA for this facility for *E. coli* bacteria is 2.62E+10 cfu/year.

Chesapeake Bay - There is a completed downstream TMDL for the nutrient impairments for the Chesapeake Bay. The Chesapeake Bay TMDL addresses all segments of the Bay and its tidal tributaries that are on the impaired waters list. As with all TMDLs, a maximum aggregate watershed pollutant loading necessary to achieve the Chesapeake Bay's water quality standards has been identified. This aggregate watershed loading is divided among the Bay states and their major tributary basins, as well as by major source categories [wastewater, urban storm water, onsite/septic agriculture, air deposition]. This facility was given an allocation based on its current design flow of 0.015 MGD. If the facility proposes and expansion, the permit will contain specific requirements for offsets and annual average Total Nitrogen and Total Phosphorus concentrations.

TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

23. Additional Comments.

Previous Board Actions: There have been no recent Consent Special Orders associated with this VPDES permit.

Staff Comments: The permit processing was delayed due to staff workload.

Public Comment: None.

EPA Checklist: The checklist can be found in Attachment E.

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the issuance of the VPDES permit listed below. The effluent limitations contained in this minor municipal permit will maintain the Water Quality Standards of 9 VAC 25-260. The municipal discharge results from the operation of a 0.015 mgd extended aeration sewage treatment plant having an aeration tank, clarifier, ultraviolet light disinfection, post aeration, and a sludge holding tank.

1. Facility Name and Address:

Aldie Wastewater Treatment Plant
P.O. Box 4000
Leesburg, VA 20177

SIC Code(s):

4952 - Wastewater Treatment Plant

Location: 39506 John Mosby Highway, Aldie, VA 20105

2. Permit No. VA0089133

Expiration Date: November 21, 2005

3. Owner Contact:

Name: Dale C. Hammes

Telephone No.: 703-771-1095

Mailing Address: P.O. Box 4000, Leesburg, VA 20177

Title: General Manager

Fax No.: 703-777-9223

4. Application Complete Date: September 1, 2005

Permit Drafted By: Susan Oakes

Reviewed By: Tom Faha

Date: 05/9/06

Date: 05/16/06

5. Receiving Stream Name:

Little River

River Mile:

Basin:

Potomac River

4.58 (1ALIV004.58)

Sub basin:

Potomac River

Section:

9

Class:

III

Special Stds:

None

7-Day, 10-Year (7Q10) Low Flow: 0.1875 MGD

1-Day, 10-Year (1Q10) Low Flow: 0.1551 MGD

30-Day, 5-Year (30Q5) Low Flow: 0.6335 MGD

7Q10 High Flow:

1Q10 High Flow:

Harmonic Mean (HM) Flow:

2.0103 MGD

1.4221 MGD

2.8248 MGD

See Attachment I – Flow Frequency Analysis. A review of updated flow frequency data showed no significant change since the last permit cycle, therefore, the flow frequency analysis is carried forward with this permit cycle.

6. Operator License Requirements: IV

7. Reliability Class: I

8. Permit Characterization:

☐ Private

☐ Federal

☐ State

☒ POTW

☒ Effluent Limited

☒ Water Quality Limited

☐ Toxics Management Program Required

☐ Pretreatment Program Required

☐ Possible Interstate Effect

☐ Compliance Schedule Required

☐ Interim Limits in Permit

☐ Interim Limits in Other Document (attached)

☐ Water Quality Standards/Criteria Variances

9. Operations, Discharges, and Wastewater Treatment

Commercial and residential wastewater from the Village of Aldie is pumped to the Aldie WWTP. Treatment at the Aldie WWTP consists of extended aeration, clarification, UV disinfection, post aeration, and sludge holding. The design flow is 0.015 mgd.

10. Operations, Sludge Use or Disposal:

Sludge is pumped and hauled, as needed, to Manhole S-17 of the Loudoun County Sanitation Authority collection system in Eastern Loudoun County, to be transferred via the Potomac Interceptor for additional treatment and final disposal at the Blue Plains Wastewater Treatment Plant. The Blue Plains WWTP is owned and operated by the District of Columbia Water and Sewer Authority.

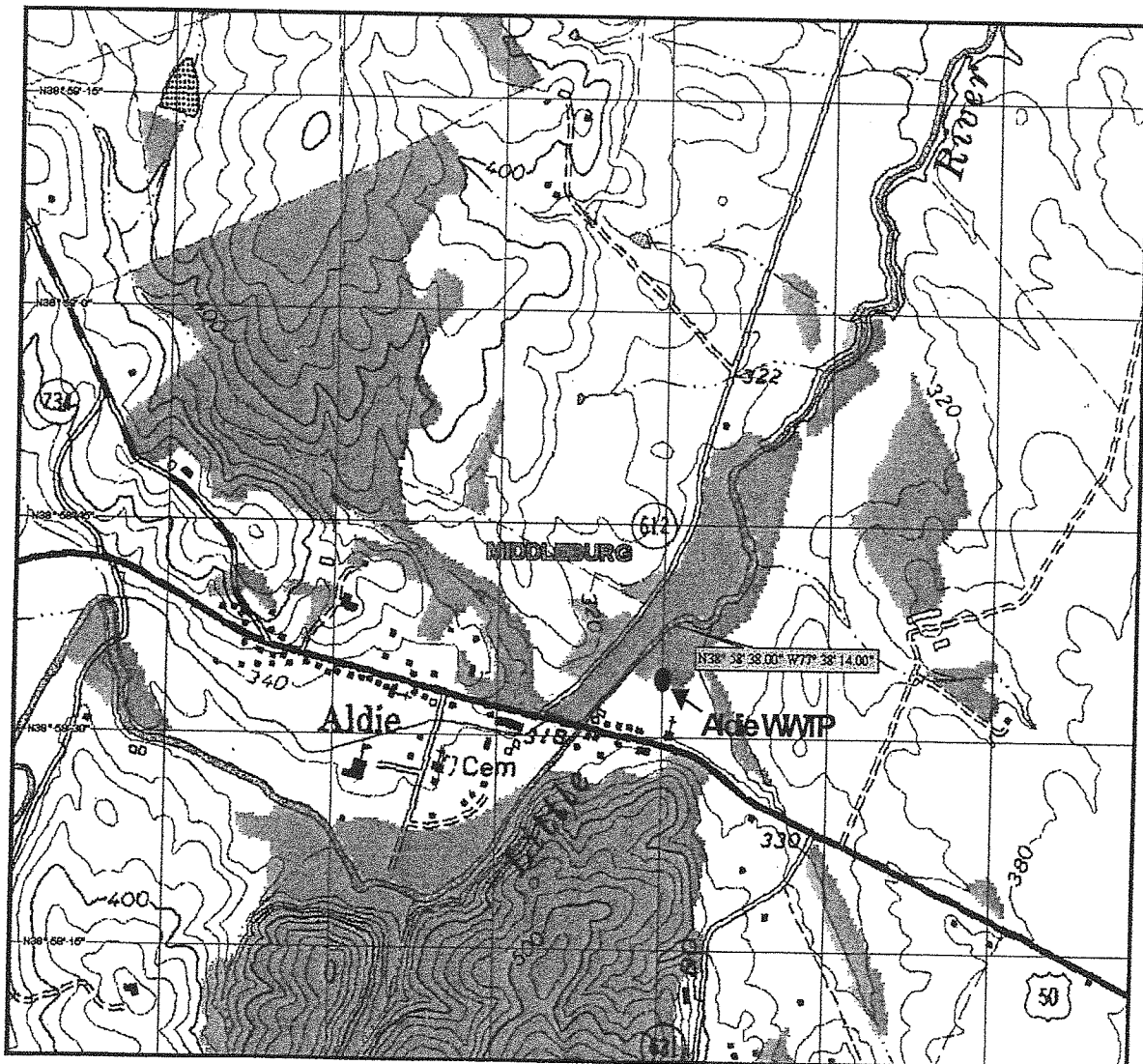
11. Discharge(s) Location Description:

The facility is located near the intersection of Routes 50 and 612, in the Village of Aldie in Loudoun County.

Table I – Discharge Description

Outfall No. and Location	Discharge Source	Treatment Provided & Sampling Location	Design Flow
001 N 38° 58' 39" W 77° 38' 14"	Treated effluent from the wastewater treatment plant	Extended aeration, clarification, UV disinfection, post aeration, and sludge holding.	0.015 MGD
See Attachment 2, Middleburg Topographic Map 206B			

Figure 1 – Section of U.S.G.S. Topographic Map 206 B, Middleburg, VA



12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

Table II	
1ALIV004.78	DEQ's Ambient Water Quality Monitoring Station located at the Route 50 bridge upstream of the Aldie WWTP discharge.
1ALIV004.78	DEQ's Biological Monitoring Station at the Route 50 bridge upstream of the Aldie WWTP discharge.
1ALIV001.70	DEQ's Ambient Water Quality Monitoring Station located at the Route 15 bridge, downstream of the Aldie WWTP discharge.

13. Antidegradation Review and Comments:

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

Little River is determined to be a Tier 1 waterbody. This determination is carried forward with this permit cycle. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

14. Site Inspection: Performed by Susan Oakes, Alison Thompson and Beth Biller on January 19, 2006 (Attachment 3).

15. Receiving Stream Water Quality and Water Quality Standards:Ambient Water Quality Data

The Department of Environmental Quality has ambient water quality monitoring stations at the Route 50 Bridge (1ALIV004.78) and the Route 15 Bridge (1ALIV001.70). In addition, DEQ has a biological monitoring station (1ALIV004.78) at Route 50.

The 2004 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report (IR) lists Little River as an impaired (Category 5) water for fecal coliform and general standard (benthic) (see Attachment 4). The impaired segment of Little River begins at the confluence of Hungry Run with Little River, approximately 1.5 river miles upstream from the Route 50 Bridge, to its confluence with Goose Creek. Sufficient exceedances of the instantaneous fecal coliform bacteria criterion were recorded at the ambient monitoring stations to assess this stream segment as not supporting of the Recreation Use goal for the 2004 water quality assessment. Based on biological survey results from the 2002 and 2004 305(b) assessment periods, this segment was determined to be slightly impaired for benthic and assesses the stream as not supporting of the Aquatic Life Use. While the benthic community integrity showed an improvement from the 1998 303(d) list, it was not sufficient to warrant removing this segment from the impaired waters list.

A Total Maximum Daily Load (TMDL) for fecal coliform was written and approved for the Goose Creek Watershed. The Aldie Wastewater Facility is accounted for in the fecal coliform TMDL in Section 5.1.2, which is the discussion of the Wasteload Allocation (WLA) for the point source discharges (Attachment 5). In January 2003, the Water Quality Standards were updated and new bacteria criteria were adopted for point source discharges. The indicator organism for wastewater effluents to fresh waters changed from fecal coliform (200 n/cfL) to *E. coli* (126 n/cfL). Since *E. coli* is a subset of the fecal coliform group, it is intuitive that the *E. coli* limit will allow Aldie WWTP to achieve compliance with the WLA in the TMDL.

DEQ has also prepared a TMDL for the benthic impairment in the Goose Creek Watershed. The Aldie WWTP is accounted for in the Benthic TMDL in Section 6.2.1., which is the discussion of the WLA for the point source discharges in the watershed (Attachment 6). The facility has TSS limitations in place and is currently in compliance with the limitations and with the WLA in the TMDL.

Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Little River is located within Section 9 of the Potomac River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380 designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Little River, is located within Section 9 of the Potomac River Basin. This section has been designated a Class III water with no special standards.

16. Effluent Limitations:

Table II – Final Effluent Limitations Summary

(✓) Final Limits () Interim Limits		Outfall No. 001								Design Flow 0.015 MGD	
Parameter	Basis for Limits	Effluent Limitations								Monitoring Requirements	
		Monthly Average		Weekly Average		Minimum		Maximum		Frequency	Sample Type
Flow (MGD)		-	NL	-	-	-	-	NL		1/D	Estimate
Influent BOD ₅	1,4	N/A	N/A	N/A	N/A	N/A		NL		1/YR	Grab
Effluent BOD ₅ ⁽⁶⁾	1,4	30 mg/L	1.7 kg/d	45	2.6 kg/d	-	-	-	-	1/M	Grab
Influent TSS	1	N/A	N/A	N/A	N/A	N/A		NL		1/YR	Grab
Effluent TSS ⁽⁶⁾	1	30 mg/L	1.7 kg/d	45	2.6 kg/d	-	-	-	-	1/M	Grab
pH (S.U.)	3	-	-	-	-	6.0	-	9.0	-	1/D	Grab
D.O.	3,4	-	-	-	-	5.0 mg/L	-	-	-	1/D	Grab
<i>E. coli</i> (N/100 mls)	3	126	-	-	-	-	-	-	-	2/M	Grab
		Geo.Mean									

1. Federal Effluent Requirements
2. Best Engineering Judgment
3. Water Quality Standard
4. Other (model, WQM Plan, etc.)
5. Best Professional Judgment
6. At least 85% removal for BOD₅ and TSS must be attained for this effluent.

The previous permit cycle used in stream monitoring to evaluate the ammonia criteria and determined that no ammonia limit was needed. The monitoring requirement was satisfied and removed. (See Attachment 7 for the ammonia evaluation).

A review of the DMR effluent data from 2000 through 2005 showed one TSS violation in June 2003. No changes to dissolved oxygen (D.O.), biochemical oxygen demand-5 day (BOD₅), total suspended solids (TSS), and pH limitations are proposed.

The BOD₅ and TSS limitations are based on the Federal Secondary Treatment Standards of at least 85% removal for BOD₅ and TSS. In addition, it is staff's best professional judgement to equate the TSS limits with the BOD₅ limits since the two pollutants are closely related in terms of treatment of domestic sewage. The D.O. limitations are based on the Virginia Water Quality Standards. pH limitations are set at the water quality criteria.

The Virginia Water Quality Standards (9 VAC 25-260-170) states that sewage discharges shall be disinfected to achieve a freshwater criteria of 126/100 ml of water monthly average and a single sample maximum of 235/100 ml of water for *E. coli*. *E. coli* limitations are in accordance with the Water Quality Standards 9 VAC25-260-170.

17. Antibacksliding Review:

Section 402(o) of the CWA and the VA VPDES permit regulation at 9 VAC-25-31-220.L prohibit the issuance of a permit that contains BPJ or water quality limits that are less stringent than those in the previous permit. DEQ is not proposing imposition of less stringent BPJ or water quality based limitations.

18. Special Conditions:

- a. **95% Capacity Reopener** The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.
- b. **CTC, CTO Requirement** - The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- c. **O&M Manual Requirement** - Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual OR a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Virginia Regional Office (DEQ-NVRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. **Indirect Dischargers** - N/A. Required by VPDES Permit Regulation, 9 VAC 25-31-280 B.9 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- e. **Licensed Operator Requirement** - The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 D, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.
- f. **Reliability Class** - The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet a reliability Class of I.
- g. **Sludge Use and Disposal** - The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements may be derived from the Virginia Department of Health's Biosolids Use Regulations, 12 VAC 5-585-10 et seq. The facility includes a treatment works treating domestic sewage.
- h. **Sludge Reopener** - The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- i. **Water Quality Criteria Reopener** - The VPDES Permit Regulation at 9 VAC 25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality

criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

19. Proposed Changes to Permit:

- Part I, A. ▪ Fecal Coliform parameter has been replaced with *E. coli* parameter.
 ▪ Influent BOD₅ and TSS monitoring have been added.

20. Public Notice Information required by 9 VAC 25-31-280 B:

Comment period Start Date: June 15, 2006 End Date: July 14, 2006.

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit, within 30 days from the date of the first notice. Persons may also request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Susan Oakes at:

Virginia DEQ Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453
Telephone No. (703)583-3863
E-mail: saoakes@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

21. Regulation of Users:

There are no industrial users contributing to the treatment works.

22. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

This facility discharges directly to Little River. The stream segment receiving the effluent is listed for non attainment of Fecal Coliform and General Standard (Benthic) in the Fact Sheet for Category 5 Waters of the current approved 303(d) list (See Attachment 4).

The TMDL for Fecal Coliform for the Goose Creek Watershed has been completed and was approved by EPA on May 1, 2003. The Aldie Wastewater Treatment Plant was identified in the wasteload allocation; the wasteload allocation for Fecal Coliform given to the facility's discharge is 5.68×10^8 . The permit limit associated with the TMDL is the limit of 126 n/cmL for *E. coli*. In January 2003, the bacteria water quality standard for permitted discharges was changed from Fecal Coliform to *E. coli* for freshwater and enterococci for transition and salt waters. The facility has been in compliance with the Fecal Coliform limit in the current permit. Since *E. coli* is a subspecies of the Fecal Coliform group, it is staff's best professional opinion that the *E. coli* limit is protective of the Water Quality Standards and the approved TMDL for the Goose Creek Watershed.

The TMDL for General Standard (Benthic) for the Goose Creek Watershed has been completed and was approved by EPA on April 26, 2004. The Aldie Wastewater Treatment Plant was identified in the wasteload allocation; the wasteload allocation for Total Suspended Solids given to the facility's discharge is 3.5 tons/year. The permit limit associated with the TMDL is the limit of 30 mg/L (1.7 kg/day) for Total Suspended Solids. The facility has had only one TSS violation during the 2000 – 2005 permit cycle. It is staff's best professional opinion that the TSS limit is protective of the Water Quality Standards and the approved TMDL for the Goose Creek Watershed.

2006 MODIFICATION TO THE BACTERIA TMDL

Revisions were made to the Goose Creek Watershed Bacteria TMDL by Ross Mandel of ICPRB. Three of the point sources in the watershed requested expanded flows in their VPDES Permits: Basham Simms (VA0022802), Round Hill (VA0026212), and Middleburg (VA0024775). The wasteload allocations for these three facilities were adjusted and the modeling included a five-fold margin for potential growth. The increased load from these point sources did not cause increases in the overall watershed bacteria concentrations since the concentrations are stormwater driven.

Aldie is also a point source of the Goose Creek Watershed. The wasteload allocation for the Aldie WWTP changed slightly from 5.68×10^8 to 5.70×10^8 . The permit limit associated with the TMDL is the limit of 126 n/cfL for *E. coli*. The facility has been in compliance with the Fecal Coliform limit in the current permit. Since *E. coli* is a subspecies of the Fecal Coliform group, it is staff's best professional opinion that the *E. coli* limit is protective of the Water Quality Standards and the modified TMDL for the Goose Creek Watershed. See Attachment 11 for the updated Table 5.1. The summary of all adjustments to the Wasteload Allocations for the Goose Creek Bacteria TMDLs can be found in the permit file.

23. Additional Comments:

Dissolved Oxygen (DO):

With regard to dissolved oxygen, the Regional Model indicated that a limit of 5.0 mg/l was necessary to prevent degradation in the receiving stream when the permit was issued on November 21, 1995. (See Attachment 8) This limit is carried forward with this permit cycle.

Previous Board Action: None.

Staff Comments: The discharge is not controversial.

Public Comment:

Attachments to Fact Sheet for VPDES Permit No. VA0089133 (July 12, 2006)

Attachment 1	Flow frequency determination for L.C.S.A. – Aldie WWTP - #VA0089133
Attachment 2	Topographic Map
Attachment 3	Site Inspection
Attachment 4	Category 5 Fact Sheet
Attachment 5	Fecal Coliform TMDL
Attachment 6	Benthic TMDL
Attachment 7	Ammonia Analysis/Evaluation
Attachment 8	09/01/95 Regional Modeling System Analysis for the Aldie WWTP discharge to Little River
Attachment 9	Public Notice
Attachment 10	EPA Checklist
Attachment 11	Fecal Coliform TMDL revised Table 5.1

Attachment 1

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

Office of Water Quality Assessments

629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
L.C.S.A. - Aldie WWTP - #VA0089133

TO: Cathy K. Malast, NRO

FROM: Paul E. Herman, P.E., WQAP *Paul*

DATE: April 26, 2000

COPIES: Ron Gregory, Charles Martin, File

RECEIVED
APR 28 2000

Northern VA. Region
Dept. of Env. Quality

This memo supersedes my August 15, 1995, memo to April Young concerning the subject VPDES permit.

The Aldie WWTP discharges to the Little River near Aldie, VA. Stream flow frequencies are required by the permit writer at this site for the purpose of calculating effluent limitations for the VPDES permit.

The USGS conducted several flow measurements on the Little River in 1963, from 1968 to 1969, and from 1979 to 1980. The measurements were made at the U.S. Route 15 bridge approximately 3.0 miles downstream of the discharge point. The measurements made by the USGS were correlated with the same day daily mean values from the continuous record gage on the Goose Creek near Leesburg, VA #01644000. The measurements and daily mean values were plotted on a logarithmic graph and a best fit line was drawn through the data points. The required flow frequencies from the reference gage were plugged into the equation for the regression line and the associated flow frequencies at the measurement site were calculated. The flow frequencies at the discharge point were determined by using the values at the measurement site and adjusting them by proportional drainage areas. The data for the reference gage, the measurement site, and the discharge point are presented below:

Goose Creek near Leesburg, VA (#01644000):

Drainage Area = 332 mi²

1Q10 = 1.6 cfs	High Flow 1Q10 = 16.2 cfs
7Q10 = 1.9 cfs	High Flow 7Q10 = 23.3 cfs
30Q5 = 6.9 cfs	HM = 33.3

Little River at U.S. Route 15 bridge, near Oatlands, VA (#01643988):

Drainage Area = 47.7 mi²

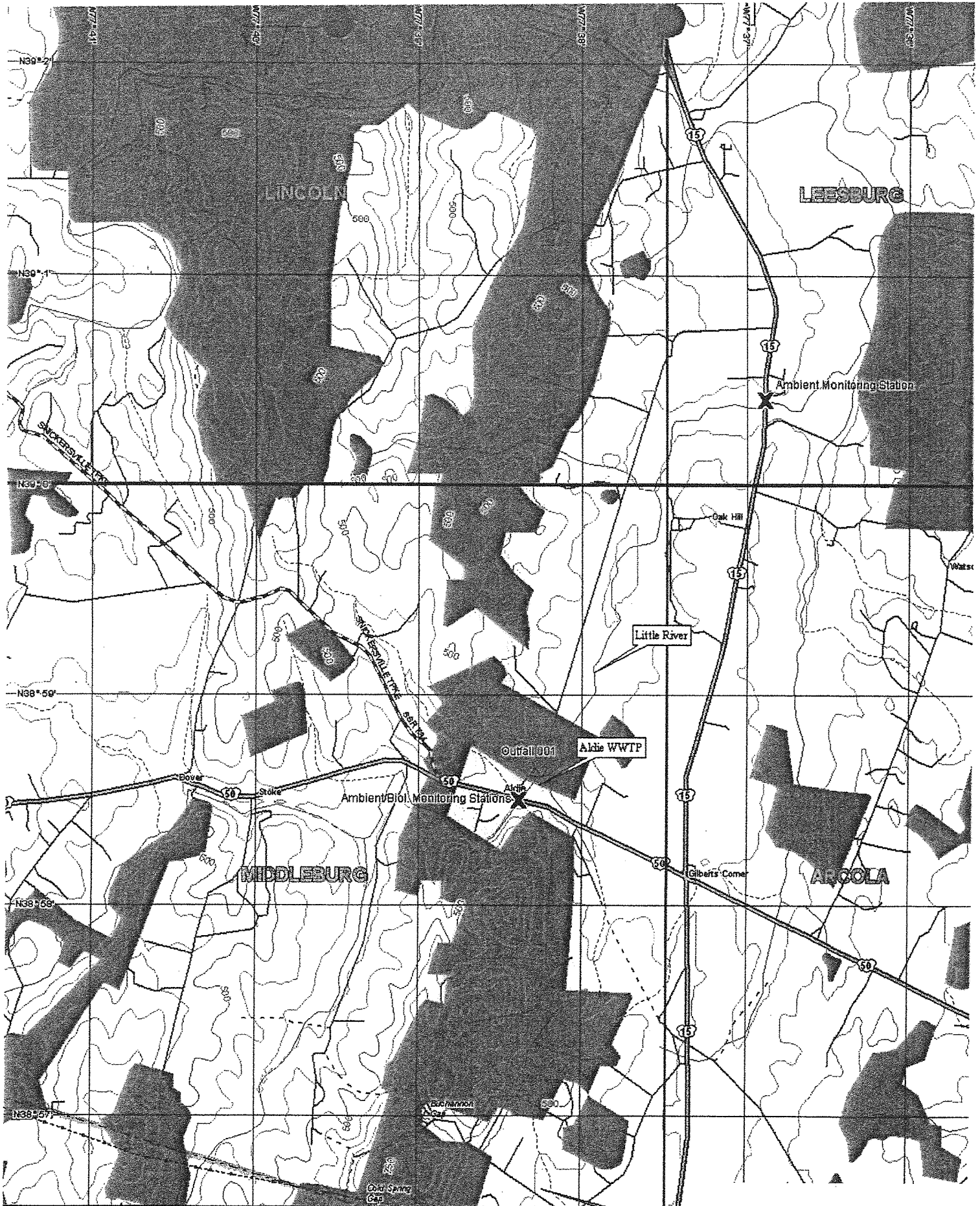
1Q10 = 0.28 cfs	High Flow 1Q10 = 2.53 cfs
7Q10 = 0.33 cfs	High Flow 7Q10 = 3.58 cfs
30Q5 = 1.13 cfs	HM = 5.02 cfs

Little River at discharge point:

Drainage Area = 41.5 mi²

1Q10 = 0.24 cfs	High Flow 1Q10 = 2.20 cfs
7Q10 = 0.29 cfs	High Flow 7Q10 = 3.11 cfs
30Q5 = 0.98 cfs	HM = 4.37 cfs

The high flow months are December through May. This analysis assumes there are no significant discharges, withdrawals or springs influencing the flow in the Little River above the discharge point. If there are any questions concerning this analysis, please



March 6, 2006
MEMORANDUM

TO: Permit Reissuance File

FROM: Susan Oakes – NRO Water Permits

SUBJECT: Site Visit of the Aldie WWTP - VA0089133

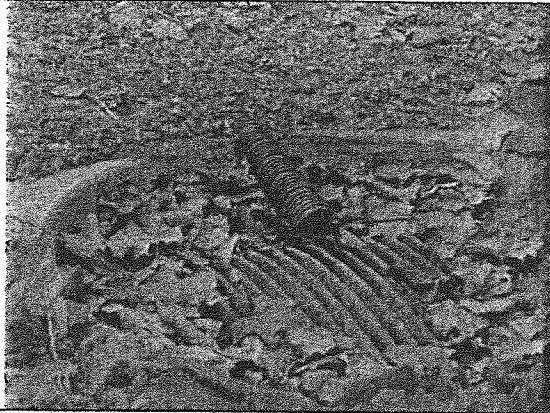




The purpose of this memo is to detail the facility site and outfall inspection conducted at the facility cited above, on January 19, 2006. This visit was conducted to gather information for the permit reissuance. Alison Thompson and Beth Biller from DEQ, and Glenn Bell, Plant Operator for Loudoun County Sanitation Authority, were present at the inspection.

The Aldie WWTP is owned and operated by Loudoun County Sanitation Authority (LCSA). The WWTP system has a design flow of 0.015 mgd and serves a population of approximately 104. Treatment consists of aeration, clarification, disinfection via UV, and post aeration. The facility discharges to Little River in the Potomac River Basin. A drain leads underground, surfacing to a drainage ditch downhill (~35 yards), to a little gully before hitting the stream (total of ~40 yards).

Sludge is pumped and hauled to a sewer interceptor line that leads to the Blue Plains WWTP in Washington, DC.

Staff noted solids on the leaves in the drainage ditch area prior to entering Little River. At the discharge point the river was approximately 24 feet wide. Looking upstream from the outfall point, the stream was free flowing as was also noted looking downstream. The river appeared to be murky and it was noted that it had rained the day before. Walking downstream, the river meandered and widened picking up speed as it curved to the left. Staff noted evidence of erosion of the stream banks and broken branches both along the shoreline and in exposed sandy areas in the river from high water levels due to wet weather flows.

Aldie Wastewater Treatment Plant (VA0089133)

	
WWTP effluent discharge	Solids noted in ditch leading to Little River
	
Discharge to Little River	View downstream from discharge point
	
View upstream of Little River to approx. location of discharge.	

Fact Sheets for Category 5 Waters

RIVER BASIN: Potomac River & Shenandoah River Basins
CITY/COUNTY: Loudoun
STREAM NAME: Little River
HYDROLOGIC UNIT: 02070008
TMDL ID: VAN-A08R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 6.13 - Miles
INITIAL LISTING: 1998
TMDL SCHEDULE: 2004
UPSTREAM LIMIT:

DESCRIPTION: Confluence of Hungry Run

RIVER MILE: 6.13

LATITUDE: 38.97194

LONGITUDE: -77.65583

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Goose Creek

RIVER MILE: 0.00

LATITUDE: 39.02083

LONGITUDE: -77.60222

Segment begins at the confluence of Hungry Run with Little River, approximately 1.5 river miles upstream from the Route 50 bridge, and continues downstream to its confluence with Goose Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Fecal Coliform (1998), General Standard (Benthic) - (1998)

Sufficient exceedances of the instantaneous fecal coliform bacteria criterion were recorded at DEQ's water quality monitoring stations at the Route 50 bridge (1ALIV004.78; 11 of 29 samples - 37.9%), and the Route 15 bridge (1ALIV001.70; 2 of 11 samples - 18.2%) to assess this stream segment as not supporting of the Recreation Use goal for the 2004 water quality assessment.

This segment was included in Part I of the 1998 303(d) report as partially supporting the aquatic life use due to a moderate benthic impairment noted at the DEQ biological monitoring station 1ALIV004.78 at Route 50. Based on biological survey results from the 2002 and 2004 305(b) assessment periods, this stream segment was determined to be slightly impaired. While the benthic community integrity showed an improvement from the 1998 303(d) list, this was not sufficient to warrant removing this segment from the impaired waters list. Therefore, the stream segment remains impaired for the benthic macroinvertebrate community.

IMPAIRMENT SOURCE: NPS, Unknown

A fecal coliform TMDL for the Goose Creek watershed was approved by the U.S. EPA on May 31, 2003. The sources of fecal coliform bacteria requiring reductions are direct deposition from cattle, pasture run-off, and human contributions from failing septic systems and straight pipes.

A TMDL for the biological impairment is scheduled to be submitted to EPA in 2004.

The allocated load from WWTPs under individual permits was set assuming that they were operating at five times their design flow at their permitted maximum average concentration. The factor of five was introduced as a conservative measure to account for potential growth. This growth-expanded allocation was calculated and presented based on the current limits of existing permits in the watershed, but it will be allocated to both new and existing permits as needed on a first-come, first-served basis. All current permit limits remain in effect and can only be altered through the VADEQ permitting process.

Table 5.1 (revised): Design flow, permitted outflow concentrations, and wasteload allocations of fecal coliform bacteria for permitted point sources

VPDES	Facility	Segment	Design Flow (MGD)	Permitted Concentration (cfu/100 mL)	WLA (cfu/day)
VA0022802	Purcellville STP	140	1.500	200	5.86E+10
VA0024112	Foxcroft School	190	0.075	200	2.84E+09
VA0024759	US FEMA – Bluemont	210	0.090	200	3.41E+09
VA0024775	Middleburg WWTP	190	0.250	200	9.46E+09
VA0026212	Round Hill WWTP	140	0.750	200	2.84E+10
VA0027197	Notre Dame Academy	190	0.015	200	5.86E+08
VA0062189	St. Louis Community	180	0.086	200	3.26E+09
VA0065200	Rehau Plastics, Inc.	10	0.009	200	3.41E+08
VA0080993	Goose Creek Industrial Park WWTP	40	0.010	200	3.79E+08
VA0089133	Aldie WWTP	150	0.015	200	5.68E+08
Total			2.80	200	1.06E+11

MGD = Million Gallons per Day

1. Current conditions
2. Development projected to occur by 2015
3. Full build-out on land zoned for development

For each growth scenario, several different allocations among sources were examined. The allocations for some sources, like WWTPs, were based on permit limits and fixed independently of the scenario. Other allocations were calculated to determine how best to meet the TMDL endpoint under the conditions specified by the scenario. The principles for determining load and wasteload allocations are described in the following sections.

6.2.1 Principles for Determining Wasteload Allocations

There is a wide variety of permitted sources of TSS in the Goose Creek watershed: wastewater treatment plants, construction sites, quarries, ready-made concrete plants, industrial stormwater systems, and MS4s.

6.2.1.1 Wastewater Treatment Plants

The allocated load from WWTPs under individual permits was set assuming that they were operating at five times their design flow at their permitted maximum average concentration. The factor of five was introduced as a conservative measure to account for potential growth. This growth-expanded allocation was calculated and presented based on the current limits of existing permits in the watershed, but it will be allocated to both new and existing permits as needed on a first-come, first-served basis. All current permit limits remain in effect and can only be altered through the VADEQ permitting process.

Table 6.2 shows the load allocation for WWTPs with individual permits.

Table 6.2: Wasteload Allocation for Wastewater Treatment Plants

VPDES	Facility	Design Flow (MGD)	Permitted Concentration (mg/L)	WLA (tons/yr)
VA0022802	Basham Simms WWF	1.000	12	91.5
VA0024112	Foxcroft School	0.075	16	9.0
VA0024759	US FEMA – Bluemont	0.090	23	16
VA0024775	Middleburg WWTP	0.135	14	14.5
VA0026212	Round Hill WWTP	0.500	10	38.0
VA0027197	Notre Dame Academy	0.015	30	3.5
VA0062189	St. Louis Community	0.086	30	19.5
VA0065200	Rehau Plastics, Inc.	No longer active		
VA0080993	Goose Creek Industrial Park WWTP	0.010	30	2.5
VA0089133	Aldie WWTP	0.015	30	3.5
Total				197.5

6.2.1.2 Water Treatment Plants

There is one individual permit for a water treatment plant in the Goose Creek Watershed: the City of Fairfax's Goose Creek Water Treatment Plant. Its wasteload allocation was set at

Ammonia

Background: Flow frequencies for Little River were reevaluated. There was a significant decrease in stream flows. Based on new stream data, ammonia limits were recalculated. The ammonia water quality standards were calculated based on the following Little River ambient water quality data collected over the five-year permit cycle. The high flow months are December through May.

High Flow Data

Date	Temp(C)	pH(SU)
96/03/18	7.8	7.2
96/05/16	11.4	7.5
96/12/17	7.4	6.9
97/03/10	7.5	7.5
97/12/11	4.5	7.3
98/03/17	4.8	7.3
99/01/04	0.1	7.1
99/03/08	1.6	7.5*
99/05/19	18.7	7.2
99/05/27	16.4	6.3
99/12/01	2.0	5.7
00/01/18	0.0	7.4
00/03/28	10.2	6.0
00/05/16	17.1*	7.9

Low Flow Data

Date	Temp (C)	pH(SU)
96/08/13	18.6	7.1
97/06/03	15.2	8.2
97/09/30	16.1	7.5
98/06/08	15.3	7.7
98/07/22	25.1	6.4
98/08/17	22.0	7.2
99/08/12	23.5*	6.8
99/10/12	14.8	7.5
00/07/24	19.7	7.7*

* 90th percentile

Based on the 90th percentile temperature and pH values for high and low flow periods, the ammonia standards were calculated using the Water Quality Standards (9 VAC 25-260-00 et seq.), Tables 1 & 2, effective December 10, 1997.

Acute High Flow Standard: $14.77 \text{ mg/l} \times 0.822 = 12.14 \text{ mg/l}$
Acute Low Flow Standard: $10.2 \text{ mg/l} \times 0.822 = 8.38 \text{ mg/l}$

Chronic High Flow Standard: $2.56 \text{ mg/l} \times 0.822 = 2.1 \text{ mg/l}$
Chronic Low Flow Standard: $2.36 \text{ mg/l} \times 0.822 = 1.94 \text{ mg/l}$

Design Flow, Q_d : 0.015MGD

1Q10, Q_{s-1} : 0.1551 MGD **High 1Q10, Q_{s-1} :** 1.4221 MGD
7Q10, Q_{s-7} : 0.1875 MGD **High 7Q10, Q_{s-7} :** 2.0103 MGD

Ammonia

Mixing Analysis:

Effluent flow = .015 MGD
Stream 7Q10 flow = .1875 MGD
Width = 20 ft
Bottom scale = 2
Channel has normal irregularities

Stream 1Q10 flow = .1551 MGD
Slope (ft/ft) = .002

ACUTE RESULTS

1Q10 depth = 0.08 ft
1Q10 velocity = 0.16 ft/sec = 2.6 mi / day
Mixing length @ 1Q10 = 4143 ft =
Residence time = 7.283 hours
COMPLETE MIX CANNOT BE USED FOR THE ACUTE WLA
Percent of 1Q10 to be used for WLAa = 14%

CHRONIC RESULTS

7Q10 depth = 0.09 ft
7Q10 velocity = 0.17 ft/sec = 2.8 mi / day
Mixing length @ 7Q10 = 3794 ft =
Residence time = 0.259 days
COMPLETE MIX MAY BE USED FOR THE CHRONIC WLA
Percent of 7Q10 to be used for WLAc = 100%

Wasteload Allocations:

The wasteload allocations (WLA) are calculated as follows, using a background concentration of 0:

High Flow

$$WLA_{Acute} = A(Q_{s-1} + Q_e) - Q_{s-1} (\text{background}) / Q_e$$
$$WLA_{Acute} = 12.14 (1.4221(0.14) + 0.015) - 0 / 0.015$$

$$WLA_{Acute} = \underline{173.27 \text{ mg/l}}$$

High Flow

$$WLA_{Chronic} = C(Q_{s-7} + Q_e) - Q_{s-7} (\text{background}) / Q_e$$
$$WLA_{Chronic} = 2.1 (2.0103(1.0) + 0.015) - 0 / 0.015$$

$$WLA_{Chronic} = \underline{283.5 \text{ mg/l}}$$

Low Flow

$$WLA_{Acute} = A(Q_{s-1} + Q_e) - Q_{s-1} (\text{background}) / Q_e$$
$$WLA_{Acute} = 8.38 (0.1551(0.14) + 0.015) -$$

$$WLA_{Acute} = \underline{20.51 \text{ mg/l}}$$

Low Flow

$$WLA_{Chronic} = C(Q_{s-7} + Q_e) - Q_{s-7} (\text{background}) / Q_e$$
$$WLA_{Chronic} = 1.94 (0.1875(1.0) + 0.015) - 0 /$$

$$WLA_{Chronic} = \underline{26.19 \text{ mg/l}}$$

Ammonia

Analysis of the Aldie STP effluent data for Ammonia during low flow months of June through November
Averaging period for standard = 30 days

The statistics for Ammonia are:

Number of values = 1

Quantification level = 0.2

Number < Quantification = 0

Expected value = 12

Variance = 51.84001

C.V. = 0.6

97th percentile = 29.20101

Statistics used = Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia are:

Acute WLA = 20.15

Chronic WLA = 26.19

Human health WLAh = ---

Limits are based on acute toxicity and 1 samples/month, 1 samples/week

Maximum daily limit = 20.15

Average weekly limit = 20.15

Average monthly limit = 20.15

Note: The maximum daily limit applies to industrial dischargers

The average weekly limit applies to POTWs

The average monthly limit applies to both.

Analysis of the Aldie STP effluent data for Ammonia during high flow months of December through May
Averaging period for standard = 30 days

The statistics for Ammonia are:

Number of values = 1

Quantification level = 0.2

Number < Quantification = 0

Expected value = 12

Variance = 51.84001

C.V. = 0.6

97th percentile = 29.20101

Statistics used = Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia are:

Acute WLA = 173.27

Chronic WLA = 283.5

Human health WLAh = ---

NO LIMIT IS REQUIRED FOR Ammonia

Ammonia

Permit Limits:

The WLA₅s were entered in version 4.0 of the WLA program with the following results:

Low Flow Monthly Average Limit: 20.15 mg/l.
 Maximum Limit: 20.15 mg/l

High Flow Period No Limit Required

We can reasonably assume that the existing secondary treatment facilities will deliver an effluent with ammonia levels below 20.15 mg/l. Therefore, monthly monitoring of this parameter is not being required.

 REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE ALDIE WTP DISCHARGE
 TO LITTLE RIVER

 THE SIMULATION STARTS AT THE ALDIE WTP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .015 MGD CBOD5 = 30 Mg/L TKN = 30 Mg/L D.O. = 5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.141 Mg/L ****

 THE SECTION BEING MODELED IS 1 SEGMENT LONG
 RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

- (1) THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.17773 MGD
 (2) THE DISSOLVED OXYGEN OF THE STREAM IS 7.679 Mg/L
 THE BACKGROUND CBOD_u OF THE STREAM IS 5 Mg/L
 THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. MI	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	3.40	0.392	6.176	1.200	0.400	0.000	287.50	23.00	8.532

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

- (1) .17773 MGD 7Q10 BASED ON ONE GAUGE + DRAINAGE AREA FOR
 GOOSE CREEK. PAUL HERMAN (ATT#1) 7Q10 BASED ON CORRELATION
 OF FLOWS FROM GOOSE CREEK + LITTLE RIVER GAUGE DATA.
 (2) BACKGROUND CONDITIONS FOR D.O. + CBOD REMAIN AS NORMAL
 DUE TO ASSUMPTION THAT UPSTREAM DISCHARGES WILL BE
 REMOVED WITH OPERATION OF THE PROPOSED FACILITY.

RESPONSE FOR SEGMENT 1

TOTAL STREAMFLOW = 0.1927 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	CBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	7.470	10.448	9.099
0.100	0.100	7.296	10.226	9.028
0.200	0.200	7.144	10.009	8.957
0.300	0.300	7.012	9.797	8.887
0.400	0.400	6.898	9.589	8.818
0.500	0.500	6.799	9.385	8.749
0.600	0.600	6.715	9.186	8.680
0.700	0.700	6.644	8.991	8.613
0.800	0.800	6.584	8.800	8.545
0.900	0.900	6.534	8.613	8.478
1.000	1.000	6.494	8.431	8.412
1.100	1.100	6.461	8.252	8.346
1.200	1.200	6.436	8.077	8.281
1.300	1.300	6.418	7.905	8.216
1.400	1.400	6.405	7.737	8.152
1.500	1.500	6.397	7.573	8.088
1.600	1.600	6.394	7.412	8.025
1.700	1.700	6.394	7.255	7.963
1.800	1.800	6.399	7.101	7.900
1.900	1.900	6.406	6.951	7.838
2.000	2.000	6.417	6.803	7.777
2.100	2.100	6.429	6.659	7.716
2.200	2.200	6.444	6.517	7.656
2.300	2.300	6.461	6.379	7.596
2.400	2.400	6.479	6.244	7.537
2.500	2.500	6.499	6.111	7.478
2.600	2.600	6.520	5.981	7.419
2.700	2.700	6.541	5.854	7.361
2.800	2.800	6.564	5.730	7.304
2.900	2.900	6.588	5.609	7.247
3.000	3.000	6.611	5.490	7.190
3.100	3.100	6.636	5.373	7.134
3.200	3.200	6.661	5.259	7.078
3.300	3.300	6.686	5.147	7.023
3.400	3.400	6.711	5.038	6.968

REGIONAL MODELING SYSTEM
09-01-1995 09:59:06

Ver 3.2 (OWRM - 9/90)

DATA FILE = ALDIE.MOD

MODEL SUGGESTS THAT SECONDARY EFFLUENT LIMITATIONS
OF BOD5 30 MG/L IS ACCEPTABLE, 30 MG/L IS THE
MAXIMUM ALLOWABLE LIMIT PER FEDERAL EFFLUENT
REQUIREMENTS.

SEGMENT INFORMATION

***** SEGMENT # 1 *****

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 3.4 MI

SEGMENT WIDTH = 20 FT

SEGMENT DEPTH = .25 FT

SEGMENT VELOCITY = .5 FT/SEC

DRAINAGE AREA AT SEGMENT START = 41.5 SQ.MI.

DRAINAGE AREA AT SEGMENT END = 47.7 SQ.MI.

ELEVATION AT UPSTREAM END = 305 FT

ELEVATION AT DOWNSTREAM END = 270 FT

THE CROSS SECTION IS: RECTANGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = SILT

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = FEW

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
09-01-1995 09:59:55

REGIONAL MODELING SYSTEM

VERSION 3.2

DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: ALDIE.MOD

THE STREAM NAME IS: LITTLE RIVER
THE RIVER BASIN IS: POTOMAC RIVER
THE SECTION NUMBER IS: 9
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: ALDIE WWTP

PROPOSED LIMITS ARE:

FLOW = .015 MGD
BOD5 = 30 MG/L
TKN = 30 MG/L
D.O. = 5 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON

THE GAUGE NAME IS: GOOSE CREEK NEAR LEESBURG
GAUGE DRAINAGE AREA = 332 SQ.MI.
GAUGE 7Q10 = 1.42186 MGD
DRAINAGE AREA AT DISCHARGE = 41.5 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE = 23 xC

Citizens may comment on the proposed reissuance of a permit that allows the release of treated wastewater into a water body in Loudoun County, Virginia

PUBLIC COMMENT PERIOD: June 15, 2006 to 5:00 p.m. on July 14, 2006

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater
Owners or operators of municipal facilities that discharge or propose to discharge wastewater into the streams, rivers or bays of Virginia from a point source must apply for this permit. In general, point sources are fixed sources of pollution such as pipes, ditches or channels. The applicant must submit the application to the Department of Environmental Quality, under the authority of the State Water Control Board.

PURPOSE OF NOTICE: To invite the public to comment on the draft permit.

NAME, ADDRESS AND PERMIT NUMBER OF APPLICANT: Loudoun County Sanitation Authority
P.O. Box 4000
Leesburg, VA 20177-1403
VA0089133

NAME AND ADDRESS OF FACILITY: Aldie WWTP
39506 John Mosby Highway, Aldie, VA 20105

PROJECT DESCRIPTION: Loudoun County Sanitation Authority has applied for a reissuance of a permit for Aldie WWTP in Loudoun County, Virginia. The applicant proposes to release treated sewage at a rate of 0.015 Million Gallons per Day into Little River in Loudoun County that is in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: BOD₅, TSS, pH, DO, and *E. Coli*.

HOW A DECISION IS MADE: After public comments have been considered and addressed by the permit or other means, DEQ will make the final decision unless there is a public hearing. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the proposed permit. If there is a public hearing, the State Water Control Board will make the final decision.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must be in writing and be received by DEQ during the comment period. The public also may request a public hearing.

WRITTEN COMMENTS MUST INCLUDE:

1. The names, mailing addresses and telephone numbers of the person commenting and of all people represented by the citizen.
2. If a public hearing is requested, the reason for holding a hearing, including associated concerns.
3. A brief, informal statement regarding the extent of the interest of the person commenting, including how the operation of the facility or activity affects the citizen.

TO REVIEW THE DRAFT PERMIT AND APPLICATION: The public may review the documents at the DEQ-Northern Virginia Regional Office every work day by appointment.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:

Name: Susan A. Oakes

Address: DEQ-Northern Virginia Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3863 E-mail: saoakes@deq.virginia.gov Fax: (703) 583-3841

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Aldie WWTP
 NPDES Permit Number: VA0089133
 Permit Writer Name: Susan Oakes
 Date: May 10, 2006

Major ☐Minor ☒Industrial ☐Municipal ☐**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?		X	
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?			
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?			X
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?			X

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?	X		
4. Does the permit require testing for Whole Effluent Toxicity?			X

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			X
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions		Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?		X		
List of Standard Conditions – 40 CFR 122.41				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance		
not a defense	Monitoring and records	Transfers		
Duty to mitigate	Signatory requirement	Monitoring reports		
Proper O & M	Bypass	Compliance schedules		
Permit actions	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?		X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>SUSAN A. OAKES</u>
Title	<u>ENV. SPEC. II</u>
Signature	<u>Susan A. Oakes</u>
Date	<u>5-10-06</u>

Table 5.1 (revised 6/20/06): Design flow, permitted outflow concentrations, and wasteload allocations of fecal coliform bacteria for point sources issued individual VPDES permits.

VPDES	Facility	Original TMDL Design Flow (MGD)	Revised TMDL Design Flow ¹ (MGD)	Permitted Concentration of Fecal Coliform (cfu/100 mL)	Original WLA (cfu/day)	Revised WLA (cfu/day) ³
VA0022802	Basham Simms WWTF ²	0.500	1.500	200	3.79E+09	5.68E+10
VA0024112	Foxcroft School	0.075	0.075	200	5.68E+08	2.84E+09
VA0024759	US FEMA – Bluemont	0.090	0.090	200	6.81E+08	3.41E+09
VA0024775	Middleburg WWTP	0.135	0.250	200	1.02E+09	9.46E+09
VA0026212	Round Hill WWTP	0.200	0.750	200	1.51E+09	2.84E+10
VA0027197	Notre Dame Academy	0.015	0.015	200	1.14E+08	5.70E+08
VA0062189	St. Louis Community	0.086	0.086	200	6.51E+08	3.26E+09
VA0080993	Goose Creek Industrial Park WWTP	0.010	0.010	200	7.57E+07	3.79E+08
VA0089133	Aldie WWTP	0.015	0.015	200	1.14E+08	5.70E+08
Total		1.135	2.80	200	8.52E+09	1.06E+11

MGD = Million Gallons per Day

¹ Expansions are planned for each of the Basham Simms, Middleburg and Round Hill facilities. These facilities have applied for expanded design flow capacities through the VPDES program. This TMDL modification incorporates the expanded design flows for these facilities into establishment of the bacteria TMDL waste load allocation.

² Basham Simms WWTF was identified as the Purcellville STP in the original TMDL report.

³ The revised WLA incorporates a factor of five times the maximum design flow to account for future growth. While the growth-expanded WLA is presented individually for each facility, it will be allocated to both new and existing facilities at the discretion of the permitting agency staff through permit issuances.

Table 5.3 (revised 6/20/06): Summary of wasteloads in the Goose Creek watershed by permit type

Permit Type	Design Flow (MGD)	Permitted Concentration (cfu/100 mL)	WLA (cfu/day)
Individual Permits (WWTPs)	2.80	200	1.06E+11
General Permits (domestic dischargers)	0.021	200	2.19E+08
Watershed Total	2.82	200	1.06E+11



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800 Fax (703) 583-3821

www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

October 2, 2009

Mr. Todd Danielson
Manager of Community Systems
Loudoun Water
P.O. Box 4000
Ashburn, VA 20146

Re: Aldie WWTP – permit #VA0089133

Dear Owner:

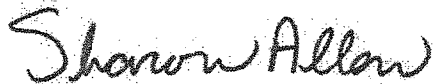
Enclosed are copies of the technical and laboratory inspection reports generated from observations made while performing a Facility Technical Inspection at the Village of Aldie Sewage Treatment Plant (STP) on September 17, 2009. The compliance staff would like to thank Les Morefield and Allen Clemens for their time and assistance during the inspection.

Summaries for both the technical and laboratory inspections are enclosed. The facility had Deficiencies for the laboratory inspection. Please note the requirements and recommendations addressed in the technical summary, particularly in regard to the UV intensity meters. Please submit in writing a progress report to this office by **November 5, 2009** for the items addressed. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

Attachment B

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office (NRO) at (703) 583-3882 or by E-mail at Sharon.Allen@deq.virginia.gov.

Sincerely,

A handwritten signature in black ink that reads "Sharon Allen". The signature is written in a cursive, flowing style.

Sharon Allen
Environmental Specialist II
Water Compliance Inspector

cc: Permits / DMR File

Electronic copy sent:

Compliance Manager, Compliance Auditor – DEQ
Les Morefield – Community Systems Supervisor, Loudoun Water

**DEQ
WASTEWATER FACILITY INSPECTION REPORT
PREFACE**

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date				
VA0089133	July 28, 2006		July 27, 2011				
Facility Name	Address		Telephone Number				
Aldie Wastewater Treatment Plant	39506 John Mosby Highway Aldie, VA 20105		571-291-7700				
Owner Name	Address		Telephone Number				
Loudoun Water	P.O. Box 4000 Ashburn, VA 20146		571-291-7700				
Responsible Official	Title		Telephone Number				
Todd Danielson	Manager of Community Systems		571- 291-7835				
Responsible Operator	Operator Cert. Class/number		Telephone Number				
David Farrell	Class VI; 1912 000198		571-291-7700				
TYPE OF FACILITY:							
DOMESTIC		INDUSTRIAL					
Federal		Major					
Non-federal	X	Minor	X				
INFLUENT CHARACTERISTICS:		DESIGN:					
	Flow	.015 MGD					
	Population Served	~ 100					
	Connections Served	37					
	BOD ₅	260					
	TSS	110					
EFFLUENT LIMITS: SPECIFY UNITS							
Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
pH	6.0		9.0	DO	5.0		
BOD5		30	45	TSS		30	45
E. coli n/cml		126					
	Receiving Stream		Little River				
	Basin		Potomac River				
	Discharge Point (LAT)		38° 58' 39"				
	Discharge Point (LONG)		77° 38' 14"				

REV 5/00 DEQ
**WASTEWATER FACILITY
 INSPECTION REPORT
 PART 1**

Inspection date: **September 17, 2009**Date Form Completed: **October 2, 2009**Inspection by: **Sharon Allen**agency: **DEQ NRO**Time spent: **20 Hrs**Announced: **No**Reviewed by:  10/2/09Scheduled: **Yes**Present at inspection: **Les Morefield, Allen Clemens – Loudoun Water**

TYPE OF FACILITY:

Domestic**Industrial**
☐ Federal ☐ Major
☒ Nonfederal ☒ Minor

☐ Major ☐ Primary
☐ Minor ☐ Secondary

Type of inspection:

☒ Routine
☐ Compliance/Assistance/Complaint
☐ Reinspection

 Date of last inspection: **9/13/06**
 Agency: **DEQ NRO**
Population served: approx. **104**Connections served: approx. **37**Last month average: (Influent) **November 2008:**

BOD ₅	260	mg/L	TSS	110	mg/L
------------------	------------	------	-----	------------	------

Last month average: (Effluent) **August 2009:**

Flow:	.0023	MGD	pH:	7.5	s.u.	DO	7.4	mg/L
BOD ₅	< QL	mg/L	TSS	9.1	mg/L	E. coli	>12	n/cml

Note: One E coli sample analyzed in August had a result of > 1600 n/cml; two other samples were collected for this month, both of which had results if < 1 n/cml. The geometric mean of these three numbers was 12 n/cml. However, since one sample result exceeded the highest quantitative number, the >sign was included to indicate that a quantitative number was not obtained for the month.

Quarter average: (Effluent) **June, July, August 2009**

Flow:	0.0031	MGD	pH:	7.3	s.u.	DO	7.2	mg/L
BOD ₅	1.7	mg/L	TSS	8.9	mg/L	E. coli	>6.5	n/cml

DATA VERIFIED IN PREFACE

☐ Updated ☐ No changes

Has there been any new construction?

☐ Yes ☒ No

If yes, were plans and specifications approved?

☐ Yes ☐ No ☒ NADEQ approval date: **NA**

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators: I ___ II ___ III ___ IV X Trainee
2. Hours per day plant is manned: **2-3 hrs per day**
3. Describe adequacy of staffing. [] Good [X] Average [] Poor
4. Does the plant have an established program for training personnel? [X] Yes [] No
5. Describe the adequacy of the training program. [] Good [X] Average [] Poor
6. Are preventive maintenance tasks scheduled? [X] Yes [] No
7. Describe the adequacy of maintenance. [X] Good [] Average [] Poor*
8. Does the plant experience any organic/hydraulic overloading?
If yes, identify cause and impact on plant: [] Yes [X] No
9. Any bypassing since last inspection? [] Yes [X] No
10. Is the standby electric generator operational? [] Yes [] No* [X] NA
11. Is the STP alarm system operational? [] Yes [] No* [X] NA
12. How often is the standby generator exercised? **NA**
Power Transfer Switch? **NA**
Alarm System? **NA**
13. When was the cross connection control device last tested on the potable water service? **5/21/09**
14. Is sludge being disposed in accordance with the approved sludge disposal plan?
[X] Yes [] No [] NA
15. Is septage received by the facility? [] Yes [X] No
Is septage loading controlled? [] Yes [] No [X] NA
Are records maintained? [] Yes [] No [X] NA
16. Overall appearance of facility: [X] Good [] Average [] Poor

Comments:

- 14. The Sludge Management Plant (SMP) may have to be updated if sludge is now being hauled to Broad Run WRF instead of the Broad Run Interceptor.**

(B) PLANT RECORDS

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Instrument maintenance and calibration	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Mechanical equipment maintenance	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Industrial waste contribution (Municipal Facilities)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA

2. What does the operational log contain?

<input checked="" type="checkbox"/> Visual observations	<input checked="" type="checkbox"/> Flow measurement
<input checked="" type="checkbox"/> Laboratory results	<input checked="" type="checkbox"/> Process adjustments
<input type="checkbox"/> Control calculations	<input type="checkbox"/> Other (specify)

Comments:

3. What do the mechanical equipment records contain?

<input checked="" type="checkbox"/> As built plans and specs	<input type="checkbox"/> Spare parts inventory
<input checked="" type="checkbox"/> Manufacturers instructions	<input checked="" type="checkbox"/> Equipment/parts suppliers
<input checked="" type="checkbox"/> Lubrication schedules	<input type="checkbox"/> Other (specify)

Comments:

4. What do the industrial waste contribution records contain?
- NA**
-
- (Municipal Only)

<input type="checkbox"/> Waste characteristics	<input type="checkbox"/> Locations and discharge types
<input type="checkbox"/> Impact on plant	<input type="checkbox"/> Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

<input checked="" type="checkbox"/> Equipment maintenance records	<input checked="" type="checkbox"/> Operational Log
<input type="checkbox"/> Industrial contributor records	<input checked="" type="checkbox"/> Instrumentation records
<input checked="" type="checkbox"/> Sampling and testing records	

6. Records not normally available to plant personnel and their location:

7. Were the records reviewed during the inspection? ☒ Yes ☐ No
8. Are the records adequate and the O & M Manual current? ☐ Yes ☐ No **See comments**
9. Are the records maintained for the required 3-year time period? ☒ Yes ☐ No

Comments:

8. Records on site at the plant were acceptable.

The O&M Manual on file at the DEQ's Northern Regional Office is dated March 1997. A letter stating that the O&M manual was accurate was received by the DEQ on September 5, 2009. However, staff should confirm that the O&M manual on site is up to date; in particular, The laboratory section (Section7) must reflect the current permit requirements (e.g.- E. coli rather than fecal coliform) and include the make and model of DO and pH meters and SOPs currently in use.

(C) SAMPLING

1. Do sampling locations appear to be capable of providing representative samples? ☒ Yes ☐ No*
2. Do sample types correspond to those required by the VPDES permit? ☒ Yes ☐ No*
3. Do sampling frequencies correspond to those required by the VPDES permit? ☒ Yes ☐ No*
4. Are composite samples collected in proportion to flow? ☐ Yes ☐ No* ☒ NA
5. Are composite samples refrigerated during collection? ☐ Yes ☐ No* ☒ NA
6. Does plant maintain required records of sampling? ☒ Yes ☐ No*
7. Does plant run operational control tests? ☒ Yes ☐ No

Comments:

(D) TESTING

1. Who performs the testing? ☒ Plant ☒ Central Lab ☐ Commercial Lab

Name: **Plant- DO, pH**
Raspberry Falls STP lab— E. coli
Broad Run WRF lab – BOD₅, TSS

If plant performs any testing, complete 2-4.

2. What method is used for chlorine analysis? **NA- plant has UV disinfection**
3. Does plant appear to have sufficient equipment to perform required tests? ☒ Yes ☐ No*
4. Does testing equipment appear to be clean and/or operable? ☒ Yes ☐ No*

Comments:

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
☐ Yes ☐ No ☒ NA
2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
☐ Yes ☐ No ☒ NA
3. Has the State been notified of the changes and their impact on plant effluent? Date:
☐ Yes ☐ No* ☒ NA

Comments:

Problems identified at last inspection:

Corrected

Not Corrected

- | | | | |
|----|--|-------------------------------------|--------------------------|
| 1. | At the time of inspection a tree had fallen, blocking the cleared access path to the outfall; access was obtained through the woods. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. | The path from the fallen tree to the outfall is becoming overgrown with grass. Mr. Bell noted that the tree was scheduled to be removed and the grass beyond the tree would then be mowed. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
-

SUMMARY 2009**Comments:**

- **The LCD display for the Intensity Meter on the UV system was not functioning at the time of this inspection; the display was flashing 0.0 μ Ws/cm². Plant staff have investigated the cause of the malfunction and determined that the sensor was bad and are in the process of ordering a replacement.**
- **The channel from Outfall 001 to the receiving stream has silted in and become grassy over the last several years. Loudoun Water staff is working on digging out the channel and restoring it to its original design.**

Recommendations for action:

- **Section 7 of the O&M Manual is out of date. The section should be revised to reflect current laboratory equipment, procedures, and quality control in use at this facility.**
- **The sludge disposal plan should be reviewed and updated if necessary.**

UNIT PROCESS: Activated Sludge Aeration

1. Number of units: **1** In operation: **1**
2. Mode of operation: **Extended aeration**
3. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
4. Foam control operational: ☒ Yes ☐ No* ☐ NA
5. Scum control operational: ☒ Yes ☐ No* ☐ NA
6. Evidence of following problems:
- | | | |
|-----------------------------------|-------------------------------|--|
| a. dead spots | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| b. excessive foam | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| c. poor aeration | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| d. excessive aeration | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| e. excessive scum | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| f. aeration equipment malfunction | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
| g. other (identify in comments) | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No |
7. Mixed liquor characteristics (as available): July 2009
 pH: **7.0 s.u.**
 MLSS: **4680 mg/L**
 DO: **5.1 mg/L**
 SDI/SVI: **85**
 Color: **Dark Brown**
 Odor: **earthy**
 Settleability: **520 ml/L @ 30 minutes**
 Others (identify):
8. Return/waste sludge:
- Return Rate: **not measured**
 - Waste Rate: **not measured**
 - Frequency of Wasting: **As needed based on process control tests; generally a couple of minutes per week.**
9. Aeration system control: ☒ Time Clock ☐ Manual ☐ Continuous ☐ Other (explain)
10. Effluent control devices working properly (oxidation ditches): ☐ Yes ☐ No* ☒ NA
11. General condition: ☒ Good ☐ Fair ☐ Poor

Comments:

9. One blower run per week, alternated manually

- Each house/building connected has a grinder pump to chop up large items prior to delivery to STP. Influent pipe goes directly into the aeration basin- end usually under water. Have to pump the tank down in order to uncover and collect the annual TSS/BOD5 influent sample.
- Flow from each grinder pump is intermittent. Loudoun Water is investigating the option of adding treatment in the collection system to help prevent water from turning septic before it is delivered to the STP.
- The RAS line broke in June 2007, resulting in a spill of clarifier solids to the ground around the plant. The broken coupling was repaired and the area was properly cleaned up; the spill did not affect waters of the State. There have not been any problems with the line since.

UNIT PROCESS: Sedimentation[] Primary **[X]** Secondary [] Tertiary

- | | | | | |
|--|----------|-----------------|---------------|---------------|
| 1. Number of units: | 1 | In operation: | 1 | |
| 2. Proper flow distribution between units: | | [] Yes | [] No* | [X] NA |
| 3. Signs of short circuiting and/or overloads: | | [] Yes | [X] No | |
| 4. Effluent weirs level: | | [X] Yes | [] No* | |
| Clean: | | [X] Yes | [] No* | |
| 5. Scum collection system working properly: | | [X] Yes | [] No* | [] NA |
| 6. Sludge collection system working properly: | | [X] Yes | [] No* | |
| 7. Influent, effluent baffle systems working properly: | | [X] Yes | [] No* | |
| 8. Chemical addition: | | [] Yes | [X] No | |
| Chemicals: | | NA | | |
| 9. Effluent characteristics: | | | | |
| 10. General condition: | | [X] Good | [] Fair | [] Poor |

Comments:

- **Some of the crossbars holding up the grates over the tank are rusty and may need to be replaced in the future.**

UNIT PROCESS: Ultraviolet (UV) Disinfection

1. Number of UV lamps/assemblies: **2** In operation: **1**
2. Type of UV system and design dosage: **Trojan 3000 PTP**
3. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
4. Method of UV intensity monitoring: **Intensity Meters**
5. Adequate ventilation of ballast control boxes: ☒ Yes ☐ No* ☐ NA
6. Indication of on/off status of all lamps provided: ☒ Yes ☐ No*
7. Lamp assemblies easily removed for maintenance: ☒ Yes ☐ No*
8. Records of lamp operating hours and replacement dates provided: ☒ Yes ☐ No*
9. Routine cleaning system provided: ☒ Yes ☐ No*
 Operate properly: ☒ Yes ☐ No*
 Frequency of routine cleaning: **Weekly**
10. Lamp energy control system operate properly: ☒ Yes ☐ No*
11. Date of last system overhaul: **September 22, 2009**
- a. UV unit completely drained ☒ Yes ☐ No*
- b. all surfaces cleaned ☒ Yes ☐ No*
- c. UV transmissibility checked ☐ Yes ☒ No*
- d. output of selected lamps checked ☐ Yes ☒ No*
- e. output of tested lamps **NA**
- f. total operating hours, oldest lamp/assembly **42220**
- g. number of spare lamps and ballasts available: lamps: **2** ballasts: **1**
More of both on order
12. UV protective eyeglasses provided: ☒ Yes ☐ No*
13. General condition: ☐ Good ☒ Fair ☐ Poor

Comments:

8. Hours displayed for the system in use- 42220

- 4. Current intensity display flashing 0.0- Les said they can't get it to work properly- they think there is a short in the wiring somewhere. I explained that the DEQ's policy is that if a system has intensity meters, they must be in good condition and in use. These meters are the only method at this point we have of assuring the system is working.**

On 9-17/18-09 I talked to Les and Charlie and was told that an electrician had been out to check the wires –problem is with the sensor itself. They are in the process of ordering new sensor.

Problems with the Intensity Meter were also noted in the inspection report dated 9/13/2006.

11. UV bulbs are replaced annually and cleaned weekly.

UNIT PROCESS: Post Aeration

1. Number of units: **1** In operation: **1**
2. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
3. Evidence of following problems:
- | | | | |
|---------------------------------|-------------------------------|--|-----------------------------|
| a. dead spots | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| b. excessive foam | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| c. poor aeration | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| d. mechanical equipment failure | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | <input type="checkbox"/> NA |
4. How is the aerator controlled? ☐ Time clock ☒ Manual ☐ Continuous ☐ Other*
☐ NA
5. What is the current operating schedule? **Continuous**
6. Step weirs level: ☐ Yes ☐ No ☒ NA
7. Effluent D.O. level: **7.6 mg/L @ 21.0 ° C at effluent weir by S. Allen at 1302**
8. General condition: ☒ Good ☐ Fair ☐ Poor

Comments:

pH= 7.15 s.u. @ 20.9 °C at the effluent weir by S. Allen at 1254.

UNIT PROCESS: Flow Measurement☐ Influent ☐ Intermediate ☒ Effluent

1. Type measuring device: **Ultrasonic**
2. Present reading: **3099290 (totalizer)**
3. Bypass channel: ☐ Yes ☒ No
Metered: ☐ Yes ☐ No ☒ NA
4. Return flows discharged upstream from meter: ☐ Yes ☒ No
Identify:
5. Device operating properly: ☒ Yes ☐ No*
6. Date of last calibration: **5-7-09**
7. Evidence of following problems:
 - a. obstructions ☐ Yes* ☒ No
 - b. grease ☐ Yes* ☒ No
8. General condition: ☒ Good ☐ Fair ☐ Poor

Comments:

UNIT PROCESS: Effluent/Plant Outfall

1. Type Outfall ☒ Shore based ☐ Submerged
2. Type if shore based: ☐ Wingwall ☐ Headwall ☒ Rip Rap
3. Flapper valve: ☐ Yes ☒ No ☐ NA
4. Erosion of bank: ☐ Yes ☒ No ☐ NA
5. Effluent plume visible? ☐ Yes* ☒ No
6. Condition of outfall and supporting structures: ☐ Good ☒ Fair ☐ Poor*
7. Final effluent, evidence of following problems:
 - a. oil sheen ☐ Yes* ☒ No
 - b. grease ☐ Yes* ☒ No
 - c. sludge bar ☐ Yes* ☒ No
 - d. turbid effluent ☐ Yes* ☒ No
 - e. visible foam ☐ Yes* ☒ No
 - f. unusual color ☐ Yes* ☒ No

Comments:

- **The plant effluent passes over a weir, enters a pipe which discharges to a grated drain, then through a second pipe to discharge to the environment.**
- **The rip rap lined channel to the receiving stream mentioned in the previous inspection report was buried and grassy at the time of this inspection. As of Sept 24th, operators were going to dig it up and return to original contours.**

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name:

Aldie WWTP

Permit No.: VA0089133

Receiving Stream:

Little River

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	23.5 deg C
90% Temperature (Wet season) =	17.1 deg C
90% Maximum pH =	7.7 SU
10% Maximum pH =	SU
Tier Designation (1 or 2) =	1
Public Water Supply (PWS) Y/N? =	n
Trout Present Y/N? =	n
Early Life Stages Present Y/N? =	y

Mixing Information

Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	100 %
- 30Q10 Mix =	100 %

Effluent Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temp (Annual) =	20 deg C
90% Temp (Wet season) =	15 deg C
90% Maximum pH =	7.5 SU
10% Maximum pH =	SU
Discharge Flow =	0.015 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	5	-	-	na	9.9E+02	-	-	na	4.3E+04	-	-	-	-	-	-	4.3E+04
Acrolein	0	-	-	na	9.3E+00	-	-	na	4.0E+02	-	-	-	-	-	-	4.0E+02
Acrylonitrile ^c	0	-	-	na	2.5E+00	-	-	na	4.7E+02	-	-	-	-	-	-	4.7E+02
Aldrin ^c	0	3.0E+00	-	na	5.0E+04	3.4E+01	-	na	9.5E-02	-	-	-	-	3.4E+01	-	9.5E-02
Ammonia-N (mg/l)	0	1.50E+01	2.05E+00	na	-	1.70E+02	4.30E+01	na	-	-	-	-	-	1.70E+02	4.30E+01	na
(Yearly)	0	1.45E+01	3.04E+00	na	-	1.39E+03	5.24E+02	na	-	-	-	-	-	1.39E+03	5.24E+02	na
Ammonia-N (mg/l) (High Flow)	0	-	-	na	4.0E+04	-	-	na	1.7E+06	-	-	-	-	-	-	1.7E+06
Anthrane	0	-	-	na	6.4E+02	-	-	na	2.8E+04	-	-	-	-	-	-	2.8E+04
Antimony	0	3.4E+02	1.5E+02	na	-	3.9E+03	2.0E+03	na	-	-	-	-	-	3.9E+03	2.0E+03	na
Arsenic	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-
Barium	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-
Benzene ^c	0	-	-	na	5.1E+02	-	-	na	9.7E+04	-	-	-	-	-	-	9.7E+04
Benzidine ^c	0	-	-	na	2.0E-03	-	-	na	3.8E-01	-	-	-	-	-	-	3.8E-01
Benzo (a) anthracene ^c	0	-	-	na	1.8E-01	-	-	na	3.4E+01	-	-	-	-	-	-	3.4E+01
Benzo (b) fluoranthene ^c	0	-	-	na	1.8E-01	-	-	na	3.4E+01	-	-	-	-	-	-	3.4E+01
Benzo (k) fluoranthene ^c	0	-	-	na	1.8E-01	-	-	na	3.4E+01	-	-	-	-	-	-	3.4E+01
Benzo (a) pyrene ^c	0	-	-	na	5.3E+00	-	-	na	1.0E+03	-	-	-	-	-	-	1.0E+03
Bis(2-Chloroethyl) Ether ^c	0	-	-	na	6.5E+04	-	-	na	2.8E+06	-	-	-	-	-	-	2.8E+06
Bis(2-Chloroisopropyl) Ether ^c	0	-	-	na	2.2E+01	-	-	na	4.2E+03	-	-	-	-	-	-	4.2E+03
Bis 2-Ethylhexyl Phthalate ^c	0	-	-	na	1.4E+03	-	-	na	2.7E+05	-	-	-	-	-	-	2.7E+05
Bromofom ^c	0	-	-	na	1.9E+03	-	-	na	8.2E+04	-	-	-	-	-	-	8.2E+04
Butylbenzylphthalate	0	1.8E+00	6.6E-01	na	-	2.0E+01	8.9E+00	na	-	-	-	-	-	2.0E+01	8.9E+00	na
Cadmium	0	-	-	na	1.6E+01	-	-	na	3.0E+03	-	-	-	-	-	-	3.0E+03
Carbon Tetrachloride ^c	0	2.4E+00	4.3E-03	na	8.1E-03	2.7E+01	5.8E-02	na	1.5E+00	-	-	-	-	2.7E+01	5.8E-02	na
Chlordane ^c	0	8.8E+05	2.3E+05	na	-	9.8E+06	3.1E+06	na	-	-	-	-	-	9.8E+06	3.1E+06	na
Chloride	0	1.9E+01	1.1E+01	na	-	2.2E+02	1.5E+02	na	-	-	-	-	-	2.2E+02	1.5E+02	na
TC	0	-	-	na	1.6E+03	-	-	na	6.9E+04	-	-	-	-	-	-	6.9E+04
Chlorobenzene	0	-	-	na	1.6E+03	-	-	na	6.9E+04	-	-	-	-	-	-	6.9E+04

Attachment C

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorobromomethane ^c	0	--	--	na	1.3E+02	--	--	na	2.5E+04	--	--	--	--	--	--	--	--	--	--	na	2.5E+04
Chloroform	0	--	--	na	1.1E+04	--	--	na	4.8E+05	--	--	--	--	--	--	--	--	--	--	na	4.8E+05
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	6.9E+04	--	--	--	--	--	--	--	--	--	--	na	6.9E+04
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	6.5E+03	--	--	--	--	--	--	--	--	--	--	na	6.5E+03
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	9.4E-01	5.5E-01	na	--	9.4E-01	5.5E-01	na	--	9.4E-01	5.5E-01	na	--	9.4E-01	5.5E-01	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.7E+03	5.7E+02	na	--	3.7E+03	5.7E+02	na	--	3.7E+03	5.7E+02	na	--	3.7E+03	5.7E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.8E+02	1.5E+02	na	--	1.8E+02	1.5E+02	na	--	1.8E+02	1.5E+02	na	--	1.8E+02	1.5E+02	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Chrysene ^c	0	--	--	na	1.8E-02	--	--	na	3.4E+00	--	--	--	--	--	--	--	--	--	--	na	3.4E+00
Copper	0	7.0E+00	5.0E+00	na	--	7.9E+01	6.7E+01	na	--	7.9E+01	6.7E+01	na	--	7.9E+01	6.7E+01	na	--	7.9E+01	6.7E+01	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.5E+02	7.0E+01	na	6.9E+05	2.5E+02	7.0E+01	na	6.9E+05	2.5E+02	7.0E+01	na	6.9E+05	2.5E+02	7.0E+01	na	6.9E+05
DDD ^c	0	--	--	na	3.1E-03	--	--	na	5.9E-01	--	--	--	--	--	--	--	--	--	--	na	5.9E-01
DDE ^c	0	--	--	na	2.2E-03	--	--	na	4.2E-01	--	--	--	--	--	--	--	--	--	--	na	4.2E-01
DDT ^c	0	1.1E+00	1.0E-03	na	2.2E-03	1.2E+01	1.4E-02	na	4.2E-01	1.2E+01	1.4E-02	na	4.2E-01	1.2E+01	1.4E-02	na	4.2E-01	1.2E+01	1.4E-02	na	4.2E-01
Demeton	0	--	1.0E-01	na	--	--	1.4E+00	na	--	--	1.4E+00	na	--	--	1.4E+00	na	--	--	1.4E+00	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.9E+00	2.3E+00	na	--	1.9E+00	2.3E+00	na	--	1.9E+00	2.3E+00	na	--	1.9E+00	2.3E+00	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	1.8E-01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	5.6E+04	--	--	--	--	--	--	--	--	--	--	na	5.6E+04
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	4.2E+04	--	--	--	--	--	--	--	--	--	--	na	4.2E+04
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	8.2E+03	--	--	--	--	--	--	--	--	--	--	na	8.2E+03
3,3-Dichlorobenzidine ^c	0	--	--	na	2.8E-01	--	--	na	5.3E+01	--	--	--	--	--	--	--	--	--	--	na	5.3E+01
Dichlorobromomethane ^c	0	--	--	na	1.7E+02	--	--	na	3.2E+04	--	--	--	--	--	--	--	--	--	--	na	3.2E+04
1,2-Dichloroethane ^c	0	--	--	na	3.7E+02	--	--	na	7.0E+04	--	--	--	--	--	--	--	--	--	--	na	7.0E+04
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	3.1E+05	--	--	--	--	--	--	--	--	--	--	na	3.1E+05
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	4.3E+05	--	--	--	--	--	--	--	--	--	--	na	4.3E+05
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	1.3E+04	--	--	--	--	--	--	--	--	--	--	na	1.3E+04
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	1.5E+02	--	--	na	2.8E+04	--	--	--	--	--	--	--	--	--	--	na	2.8E+04
1,2-Dichloropropane ^c	0	--	--	na	2.1E+02	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
1,3-Dichloropropene ^c	0	2.4E-01	5.6E-02	na	5.4E-04	2.7E+00	7.6E-01	na	1.0E-01	2.7E+00	7.6E-01	na	1.0E-01	2.7E+00	7.6E-01	na	1.0E-01	2.7E+00	7.6E-01	na	1.0E-01
Dieldrin ^c	0	--	--	na	4.4E+04	--	--	na	1.9E+06	--	--	--	--	--	--	--	--	--	--	na	1.9E+06
Diethyl Phthalate	0	--	--	na	8.5E+02	--	--	na	3.7E+04	--	--	--	--	--	--	--	--	--	--	na	3.7E+04
2,4-Dimethylphenol	0	--	--	na	1.1E+06	--	--	na	4.8E+07	--	--	--	--	--	--	--	--	--	--	na	4.8E+07
Dimethyl Phthalate	0	--	--	na	4.5E+03	--	--	na	1.9E+05	--	--	--	--	--	--	--	--	--	--	na	1.9E+05
Di-n-Butyl Phthalate	0	--	--	na	5.3E+03	--	--	na	2.3E+05	--	--	--	--	--	--	--	--	--	--	na	2.3E+05
2,4 Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	3.4E+01	--	--	na	6.4E+03	--	--	--	--	--	--	--	--	--	--	na	6.4E+03
2,4-Dinitrotoluene ^c	0	--	--	na	5.1E-08	--	--	na	2.2E-06	--	--	--	--	--	--	--	--	--	--	na	2.2E-06
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	2.0E+00	--	--	na	3.8E+02	--	--	--	--	--	--	--	--	--	--	na	3.8E+02
1,2-Diphenylhydrazine ^c	0	2.2E-01	5.6E-02	na	8.9E+01	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03	2.5E+00	7.6E-01	na	3.8E+03
Endosulfan Sulfate	0	--	--	na	6.0E-02	--	--	na	2.6E+00	9.8E-01	4.9E-01	na	2.6E+00	9.8E-01	4.9E-01	na	2.6E+00	9.8E-01	4.9E-01	na	2.6E+00
Endrin	0	8.6E-02	3.6E-02	na	3.0E-01	--	--	na	1.3E+01	--	--	--	--	--	--	--	--	--	--	na	1.3E+01
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	1.3E+01	--	--	--	--	--	--	--	--	--	--	na	1.3E+01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	9.1E+04	--	--	--	--	--	--	na
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	6.1E+03	--	--	--	--	--	--	na
Fluorene	0	--	--	na	5.3E+03	--	--	na	2.3E+05	--	--	--	--	--	--	na
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Guthion	0	--	1.0E-02	na	--	--	1.4E-01	na	--	--	--	--	--	--	1.4E-01	na
Heptachlor ^c	0	5.2E-01	3.8E-03	na	7.9E-04	5.9E+00	5.1E-02	na	1.5E-01	5.9E+00	5.1E-02	--	--	5.9E+00	5.1E-02	na
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	3.9E-04	5.9E+00	5.1E-02	na	7.4E-02	5.9E+00	5.1E-02	--	--	5.9E+00	5.1E-02	na
Hexachlorobenzene ^c	0	--	--	na	2.9E-03	--	--	na	5.5E-01	--	--	--	--	--	--	na
Hexachlorobutadiene ^c	0	--	--	na	1.8E+02	--	--	na	3.4E+04	--	--	--	--	--	--	na
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	9.3E+00	--	--	--	--	--	--	na
Alpha-BHC ^c	0	--	--	na	1.7E-01	--	--	na	3.2E+01	--	--	--	--	--	--	na
Beta-BHC ^c	0	--	--	na	1.8E+00	1.1E+01	--	na	3.4E+02	--	--	--	--	1.1E+01	--	na
Hexachlorocyclohexane	0	--	--	na	1.1E+03	--	--	na	4.8E+04	--	--	--	--	--	--	na
Gamma-BHC ^c (Lindane)	0	--	--	na	3.3E+01	--	--	na	6.2E+03	--	--	--	--	--	--	na
Hexachlorocyclopentadiene	0	--	2.0E+00	na	--	--	2.7E+01	na	--	--	--	--	--	--	2.7E+01	na
Hexachloroethane ^c	0	--	--	na	1.8E-01	--	--	na	3.4E+01	--	--	--	--	--	--	na
Hydrogen Sulfide	0	--	--	na	9.6E+03	--	--	na	1.8E+06	--	--	--	--	--	--	na
Indeno (1,2,3-cd) pyrene ^c	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	0.0E+00	na
Iron	0	4.9E+01	5.6E+00	na	--	5.6E+02	7.5E+01	na	--	5.6E+02	7.5E+01	--	--	5.6E+02	7.5E+01	na
Isophorone ^c	0	--	1.0E-01	na	--	--	1.4E+00	na	--	--	--	--	--	--	1.4E+00	na
Lead	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Malathion	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Mercury	0	1.4E+00	7.7E-01	--	--	1.6E+01	1.0E+01	--	--	1.6E+01	1.0E+01	--	--	1.6E+01	1.0E+01	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	6.5E+04	--	--	--	--	--	--	na
Methylene Chloride ^c	0	--	--	na	5.9E+03	--	--	na	1.1E+06	--	--	--	--	--	--	na
Methoxychlor	0	--	3.0E-02	na	--	--	4.1E-01	na	--	--	--	--	--	--	4.1E-01	na
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	0.0E+00	na
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.2E+03	1.5E+02	na	2.0E+05	1.2E+03	1.5E+02	--	--	1.2E+03	1.5E+02	na
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	3.0E+04	--	--	--	--	--	--	na
N-Nitrosodimethylamine ^c	0	--	--	na	3.0E+01	--	--	na	5.7E+03	--	--	--	--	--	--	na
N-Nitrosodiphenylamine ^c	0	--	--	na	6.0E+01	--	--	na	1.1E+04	--	--	--	--	--	--	na
N-Nitrosodi-n-propylamine ^c	0	--	--	na	5.1E+00	--	--	na	9.7E+02	--	--	--	--	--	--	na
Nonylphenol	0	2.8E+01	6.6E+00	--	--	3.2E+02	8.9E+01	na	--	3.2E+02	8.9E+01	--	--	3.2E+02	8.9E+01	na
Parathion	0	6.5E-02	1.3E-02	na	--	7.4E-01	1.8E-01	na	--	7.4E-01	1.8E-01	--	--	7.4E-01	1.8E-01	na
PCB Total ^c	0	--	1.4E-02	na	6.4E-04	--	1.9E-01	na	1.2E-01	--	--	--	--	--	--	na
Pentachlorophenol ^c	0	7.7E-03	5.9E-03	na	3.0E+01	8.7E-02	8.0E-02	na	5.7E+03	8.7E-02	8.0E-02	--	--	8.7E-02	8.0E-02	na
Phenol	0	--	--	na	8.6E+05	--	--	na	3.7E+07	--	--	--	--	--	--	na
Pyrene	0	--	--	na	4.0E+03	--	--	na	1.7E+05	--	--	--	--	--	--	na
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	1.7E+02	--	--	--	--	--	--	na
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.3E+02	6.8E+01	na	1.8E+05	--	--	--	--	2.3E+02	6.8E+01	na
Silver	0	1.0E+00	--	na	--	1.2E+01	--	na	--	--	--	--	--	1.2E+01	--	na
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane ^c	0	--	--	na	4.0E+01	--	--	na	7.6E+03	--	--	--	--	--	--	na
Tetrachloroethylene ^c	0	--	--	na	3.3E+01	--	--	na	6.2E+03	--	--	--	--	--	--	na
Thallium	0	--	--	na	4.7E+01	--	--	na	2.0E+01	--	--	--	--	--	--	na
Toluene	0	--	--	na	6.0E+03	--	--	na	2.6E+05	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Toxaphene ^c	0	7.3E-01	2.0E-04	na	2.8E-03	8.9E+00	2.7E-03	na	5.3E-01	--	--	--	--	8.3E+00	2.7E-03	na
Tributyltin	0	4.6E-01	7.2E-02	na	--	5.2E+00	9.7E-01	na	--	--	--	--	--	5.2E+00	9.7E-01	na
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	3.0E+03	--	--	--	--	--	--	na
1,1,2-Trichloroethane ^c	0	--	--	na	1.6E+02	--	--	na	3.0E+04	--	--	--	--	--	--	na
Trichloroethylene ^c	0	--	--	na	3.0E+02	--	--	na	5.7E+04	--	--	--	--	--	--	na
2,4,6-Trichlorophenol ^c	0	--	--	na	2.4E+01	--	--	na	4.5E+03	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Vinyl Chloride ^c	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	7.4E+02	8.9E+02	na	1.1E+06	--	--	--	--	7.4E+02	8.9E+02	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
Antidegrad. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q3 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	2.8E+04
Arsenic	1.2E+03
Barium	na
Cadmium	5.3E+00
Chromium III	3.4E+02
Chromium VI	7.3E+01
Copper	3.2E+01
Iron	na
Lead	4.5E+01
Manganese	na
Mercury	6.2E+00
Nickel	9.1E+01
Selenium	4.1E+01
Silver	4.8E+00
Zinc	3.0E+02

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: XXX, 2011 to 5:00 p.m. on XXX, 2011

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Loudoun Water, PO Box 4000, Ashburn, VA 20146 VA0089133

NAME AND ADDRESS OF FACILITY: Aldie WWTP, 39506 John Mosby Hwy, Aldie, VA 20105

PROJECT DESCRIPTION: Loudoun Water has applied for a reissuance of a permit for the public Aldie WWTP. The applicant proposes to release treated sewage wastewaters from residential areas at a rate of 0.015 million gallons per day into a water body. The sludge will be disposed by pump and haul to the Broad Run Water Reclamation Facility for further treatment. The facility proposes to release the treated sewage in the Little River in Loudoun County in the Potomac watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, BOD, Dissolved Oxygen, and Total Suspended Solids.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Alison Thompson

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3834 E-mail: Alison.Thompson@deq.virginia.gov Fax: (703) 583-3821

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Aldie WWTP
 NPDES Permit Number: VA0089133
 Permit Writer Name: Alison Thompson
 Date: August 1, 2011

Major ☐Minor ☒Industrial ☐Municipal ☒**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?	X		
4. Does the permit require testing for Whole Effluent Toxicity?		X	

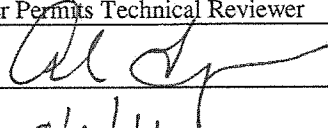
II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions			Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			X		
List of Standard Conditions – 40 CFR 122.41					
Duty to comply	Property rights	Reporting Requirements			
Duty to reapply	Duty to provide information	Planned change			
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance			
not a defense	Monitoring and records	Transfers			
Duty to mitigate	Signatory requirement	Monitoring reports			
Proper O & M	Bypass	Compliance schedules			
Permit actions	Upset	24-Hour reporting			
		Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?					

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Alison Thompson</u>
Title	<u>Water Permits Technical Reviewer</u>
Signature	<u></u>
Date	<u>8/1/11</u>